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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,597	04/25/2005	Christoph Plachetta	12810-00082-US	9449

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EXAMINER

KOLLIAS, ALEXANDER C

ART UNIT	PAPER NUMBER
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1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,597	Applicant(s) PLACHETTA ET AL.	
	Examiner ALEXANDER C. KOLLIAS	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20050425</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1 and 5, 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wehr (US 4,879,120) and in view of Seeger (US 5,540,499).

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Regarding claims 1, 5, and 6-7 Wehr teaches a process for producing a polyamide with titanium dioxide pigments comprising: dispersing the titanium dioxide pigments in a mixture containing water and caprolactam, polymerizing said product mixture to a form the polyamide containing titanium dioxide pigments and obtaining a product mixture containing water, caprolactam and the titanium dioxide pigment (Column 1, Lines 47-58 and Column 2, Lines 21-37).

However, the reference does not teach a process comprising an apparatus. Seeger teaches an apparatus for dispersing, emulsifying or suspending liquids or granular substances, particularly for wetting and dispersing powders in liquids (Column 1, Lines 6-9). The apparatus comprises a dispersing chamber (Abstract), a disk-shaped rotor disposed in said dispersing chamber (Abstract), a stator which has radial openings and is disposed in conjunction with said rotor in a dispersing zone of said dispersing chamber (Column 4, Lines 47-54), a product inlet on each side of said rotor (Abstract), such that the confluence of two product streams from each of the product inlets is axially disposed on each side of the outer peripheral region of the disk-shaped rotor (Abstract, Column 1, Lines 62-76 and Column 2, Lines 1-15), and a product outlet at the outer periphery of said dispersing zone of said dispersing chamber (Abstract).

The reference teaches that two streams of substances, in particular powder are drawn into the apparatus through the two inlets which can then be finely distributed and if applicable wetter and dispersed (Column 3, Lines 39-44). The reference teaches that the apparatus provides a simple means of supplying two substances separately from one another into the dispersion/mixing region. The advantage of this is that the bringing together of the substances, more particularly the wetting of the powder or granular substances, takes place only in the region

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in which the substances are mechanically acted upon and mixed with one another, and if applicable comminuted and finely divided. Consequently the substances cannot react until they reach the dispersion region, with the result being that the substances are already partly distributed in one another before they undergo a change of state through mutual contact. The substances can thus be distributed in one another before the process is significantly limited and hindered by the change in state. In the case of substances that are difficult to process, such as powders and granules, state changes (such as those caused by wetting) that result in a tendency for clogging cause no harm, since the powders or granules are already in the region in which it is mechanically acted upon, and consequently there can be no clogging or through-flow disturbances during supplying (Column 2, Lines 16-37).

Given that Wehr is drawn to a process of polymerizing a dispersion of titanium dioxide pigments with caprolactam and Seeger is drawn to a apparatus for dispersing powders in liquids and, given that Wehr does not explicitly prohibit other process steps, in light of the particular advantages provided by the use of the dispersion apparatus as taught by Seeger, it would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to include such an apparatus in the process of Wehr with a reasonable expectation of success.

Regarding the method limitations recited in claim 5, the examiner notes that even though a product-by-process is defined by the process steps by which the product is made, determination of patentability is based on the product itself. In *re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). As the court stated in *Thorpe*, 777 F.2d at 697, 227 USPQ at 966 (The patentability of a product does not depend on its method of production. In *re Pilkington*, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969). If the product in a product-by-process claim is the

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same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.).

Regarding claims 3-4, modified Wehr teaches all the claim limitations as set forth above. Additionally, Wehr teaches a process, wherein water is removed from the product mixture during the polymerization and additional caprolactam is added to the product mixture during the polymerization (Column 2, Lines 46-54 and Column 3, Lines 4-10 and Example 1, Lines 34-44).

5. Claim 2 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wehr (US 4,879,120) and in view of Seeger (US 5,540,499) as applied to claim 1 above, and further in view of Strehler et al (US 4,388,425).

Regarding claim 2, modified Wehr teaches all the claim limitations as set forth above. However, Wehr does not teach a process, wherein the mixture further comprises a dispersing assistant.

Strehler et al teaches a process of forming concentrates of titanium dioxide comprising aqueous dispersions of caprolactam. Furthermore, the reference teaches the addition of a dispersion assistant (Column 3, Lines 1-3, dispersion assistant is disodium phosphate)

Given that modified Wehr and Strehler et al are drawn to analogous process of forming a dispersion of titanium dioxide, and given that Wehr does not explicitly prohibit other ingredients it would therefore have been obvious to one of ordinary skill in the art to include as doing so would amount to nothing more than use of known process for its intended use, in a known environment to accomplish entirely expected results.

6. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wehr (US 4,879,120) and in view of Seeger (US 5,540,499) as applied to claim 1 above, and further in view of Strehler et al (US 4,388,425).

Regarding claims 8-11, modified Wehr teaches all the claim limitations as set forth above. However, Wehr does not teach a process, wherein the mixture containing water and caprolactam includes a weight ratio of water:caprolactam from 1:1 to 99:1. Furthermore, the reference does not disclose a process wherein the ratio of water:caprolactam is from 4:1 to 97:3

Strehler et al teaches a process to produce polycaprolactam delustered with titanium dioxide. Furthermore, the reference teaches a process wherein a titanium dioxide suspension is mixed with caprolactam dispersed in water (Column 2, Lines 38-67). The reference discloses 2,200 L of caprolactam (Density of caprolactam is 1.01 g/cm³ which yields a mass of 2,222 kg), 350 kg of demineralized water and a mixture of 9,000 kg mixture of water and 11% titanium dioxide (8010 Kg water and 990 Kg titanium dioxide) which yields:

- i. total amount of water in mixture is 8,340 Kg
- ii. total amount of titanium dioxide is 990Kg
- iii. total amount of caprolactam is 2,222 Kg

This yields a ratio of water to caprolactam of 1:0.266 which is within the claimed range of 1:1 and 99:1 and substantially similar to the claimed range of 4:1 to 97:3.

Furthermore, when faced with a mixture, one of ordinary skill in the art would be motivated by common sense to select a 1:1 ratio, a ratio that falls within the presently claimed amount, absent evidence of unexpected or surprising results. Case law holds that "[h]aving

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established that this knowledge was in the art, the examiner could then properly rely... on a conclusion of obviousness, 'from common knowledge and common sense of the person of ordinary skill in the art within any specific hint or suggestion in a particular reference.'" In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

Given that modified Wehr and Strehler et al are drawn to analogous processes of forming a aqueous dispersion of titanium dioxide and caprolactam, it would have been obvious to one of ordinary skill in the art at the time of invention to have selected the overlapping portion of the ranges disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. It is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See In re Harris, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); In re Peterson, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); In re Woodruff, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); In re Malagari, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974)

Regarding claims 10-11, modified Wehr teaches all the claim limitations as set forth above. However, Wehr does not disclose a process, wherein the mixture containing water and caprolactam and the titanium dioxide pigments are added to each of the product inlets in a weight ratio of pigment:mixture from 1:99 to 1:1. Furthermore, the reference does not disclose a process, wherein the ratio of pigment:mixture is from 15:85 to 1:3

Strehler et al teaches a process to produce polycaprolactam delustered with titanium dioxide. Furthermore, the reference teaches a process wherein a titanium dioxide suspension is

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mixed with caprolactam dispersed in water comprising 5 – 15 % titanium dioxide, up to 30% of caprolactam, and 65-55% water (Column 1, Lines 65-61), which yields a pigment:mixture ratio of 1:19 to 1:5.6 which is within the claimed range of 1:99 to 1:1.

Furthermore, when faced with a mixture, one of ordinary skill in the art would be motivated by common sense to select a 1:1 ratio, a ratio that falls within the presently claimed amount, absent evidence of unexpected or surprising results. Case law holds that "[h]aving established that this knowledge was in the art, the examiner could then properly rely... on a conclusion of obviousness, 'from common knowledge and common sense of the person of ordinary skill in the art within any specific hint or suggestion in a particular reference.'" *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

Given that modified Wehr and Strehler et al are drawn to analogous processes of forming a aqueous dispersion of titanium dioxide and caprolactam, it would have been obvious to one of ordinary skill in the art at the time of invention to have selected the overlapping portion of the ranges disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. It is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974)

Regarding the claimed pigment:mixture ratio of 15:85 to 1:3 the reference discloses a lower bound ratio of 15:85. Furthermore, it would have been obvious to one of ordinary skill in

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the art at the time the invention was made to adjust the pigment:mixture ratio by adjusting, for example, the amount of water in the process taught by Strehler in order to optimize the dispersivity of the titanium dioxide and polycaprolactam.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wehr (US 4,879,120) and in view of Seeger (US 5,540,499) as applied to claim 1 above, and further in view of Belde et al (US 4,474,681).

Regarding claim 12, modified Wehr teaches all the claim limitations as set forth above. However, Wehr does not teach a process, wherein the titanium dioxide pigments have a mean average particle size of less than 1-2 microns.

Belde et al teaches an aqueous suspension of finely divided titanium dioxide particles are introduced into the polymerization melt during the production of polycaprolactam (Column 1, Lines 1-9). Furthermore, the reference teaches that titanium dioxide particles are less than 10mm in size and advantageously the particles have a size of f 0.1 to 5 mm (Column 1, Lines 46-50).

Given that modified Wehr and Belde are drawn to analogous processes and given that in light of the particular advantages provided by the use and control of the size of the titanium dioxide particles as taught by Belde, it would have been obvious to one of ordinary skill in the art at the time of invention was made to have selected the overlapping portion of the ranges disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. It is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74

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USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claim 5 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 17 of U.S. Patent No. 5,179,164. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the reasons given below.

US Patent No. 5,179,164 claims a polyamide composition comprising pigment like presently claimed. Note that claim 5 is a product-by-process claim wherein no weight is given to the process limitation absent a showing of criticality. MPEP 2113. Given that patented claim 17

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which claims a composition comprising a polyamide (B) and a reinforcing agent (E), which is chosen from a Markush group that recites a pigment, coincides with present claim 5 (setting aside the process limitation), an obviousness type double patenting is warranted.

10. Claim 5 is directed to an invention not patentably distinct from claim 17 of commonly assigned U.S. Patent No. 5,179,164. Specifically, see the discussion set forth in paragraph 9 above.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent 5,179,164.

12. The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2). Specifically, see the discussion set forth in paragraph 9 above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned U.S. Patent 5,179,164, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

This is a provisional obviousness-type double patenting rejection.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER C. KOLLIAS whose telephone number is (571)-270-3869. The examiner can normally be reached on Monday-Friday, 8:00 AM -5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. C. K./
Examiner, Art Unit 1796

/VASUDEVAN S. JAGANNATHAN/
Supervisory Patent Examiner, Art Unit 1796